

AN UNUSUAL NEW SPECIES OF *PEDARIDIUM* HAROLD (COLEOPTERA: SCARABAEIDAE: ATEUCHINI) FROM COLOMBIA¹

BRUCE D. GILL²
FERNANDO Z. VAZ-DE-MELLO³

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Abstract

A new species from Colombia, *Pedaridium medinae* n. sp. is described and illustrated. This new species is readily distinguished from all others in the genus by the lack of eyes on the dorsal surface of the head and by several unusual secondary sexual characters in the male.

Keywords. Ateuchini; Colombia; new species; *Pedaridium*.

Introduction

The Ateuchini genera *Pedaridium* Harold, 1868 and *Trichillum* Harold, 1868 currently include some 50 described species of small to medium-sized dung beetles (2 to 7mm in length). While the generic limits are not well-defined, both of these strictly Neotropical taxa appear to be polyphyletic and are currently under study by the second author.

The purpose of this paper is to describe an unusual new species to facilitate ongoing faunistic studies in Colombia (Medina and Lopera 2001, Medina *et al.* 2002). This new species is placed in the genus *Pedaridium* based on a gradually expanded epipleuron, a diagnostic character used for separating *Pedaridium* from *Trichillum* in a recent revision by Ferreira and Galileo (1993).

Material and Methods

Specimens of this new species were collected by the senior author in relict patches of Andean forest using pitfall traps baited with human dung. Additional specimens were borrowed from, or are deposited in, the following collections (curators in parentheses):

- BDGC Bruce D. Gill personal collection, Ottawa, Canada.
CAMC Claudia A. Medina personal collection, Cali, Colombia.
CMNC Canadian Museum of Nature, Ottawa, Canada (H. F. Howden and François Génier).
CNCI Canadian National Collection of Insects, Ottawa, Canada (Anthony Davies).
IAHC Instituto Alexander von Humboldt, Villa de Leyva, Colombia (Fernando Fernández).
FZVC Fernando Z. Vaz-de-Mello personal collection, Lavras, Brazil.

Photographs were taken on a Phillips ESEM scanning electron microscope by T.E. Dare of Buckham's Bay, Ontario using uncoated specimens.

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² Entomology Unit, Centre for Plant Quarantine Pests, Canadian Food Inspection Agency, 960 Carling Avenue, Ottawa, Canada, K1A 0C6. E-mail: gillbd@inspection.gc.ca

³ Departamento de Biologia, and Departamento de Entomologia, Universidade Federal de Lavras, Lavras MG 37200-000, Brazil. E-mail: scarab@ufla.br

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Results

Pedaridium medinae Gill & Vaz-de-Mello, n. sp.

Males. 3.8 – 4.8 mm in length. Body elongate-oval; dorsal surface of body (head, pronotum and elytra) dark gray to dark brown in colour, ventral surface of body and legs dark brown. Punctures on dorsal surface with long reddish-orange setae or much smaller yellowish setae; punctures on ventral surface with predominantly smaller, yellowish setae.

Head (Figure 1). Clypeus anteriorly with two small teeth, separated by a broad U-shaped emargination. Emargination bordered with indistinct carina connecting bases of clypeal teeth. Ventral surface of emargination carinate, forming small median denticle. Lateral margin of clypeus evenly arcuate to gena. Gena abruptly angulate. Clypeal surface coarsely punctate; anteriorly with mixture of small and large punctures, posteriorly with larger, more uniformly-sized punctures. Frons and vertex with large, closely-spaced punctures; punctures with scattered setae. Eyes not visible dorsally.

Pronotum with border unmargined except for small area at posterolateral angle. Disc coarsely, densely punctate except for small impunctate callus near lateral margin; punctures similar to those on frons, but larger, especially basally. Anterior angle obtuse, posterior angle rounded, lateral margin sinuate.

Elytron (Figure 2) with disc anteriorly flat, posteriorly convex; with rows of long and short setae. Sutural stria simple; discal striae consisting of single rows of large, contiguous, deeply-impressed ocellate punctures; diameter of ocellate punctures approximately one-half to two-thirds interstrial width, punctures forming unbroken chain from base to apex of elytron. First and second discal striae deeply impressed at apex; lateral stria deeply impressed throughout length. Elytral intervals with two rows of small, shallowly-impressed punctures.

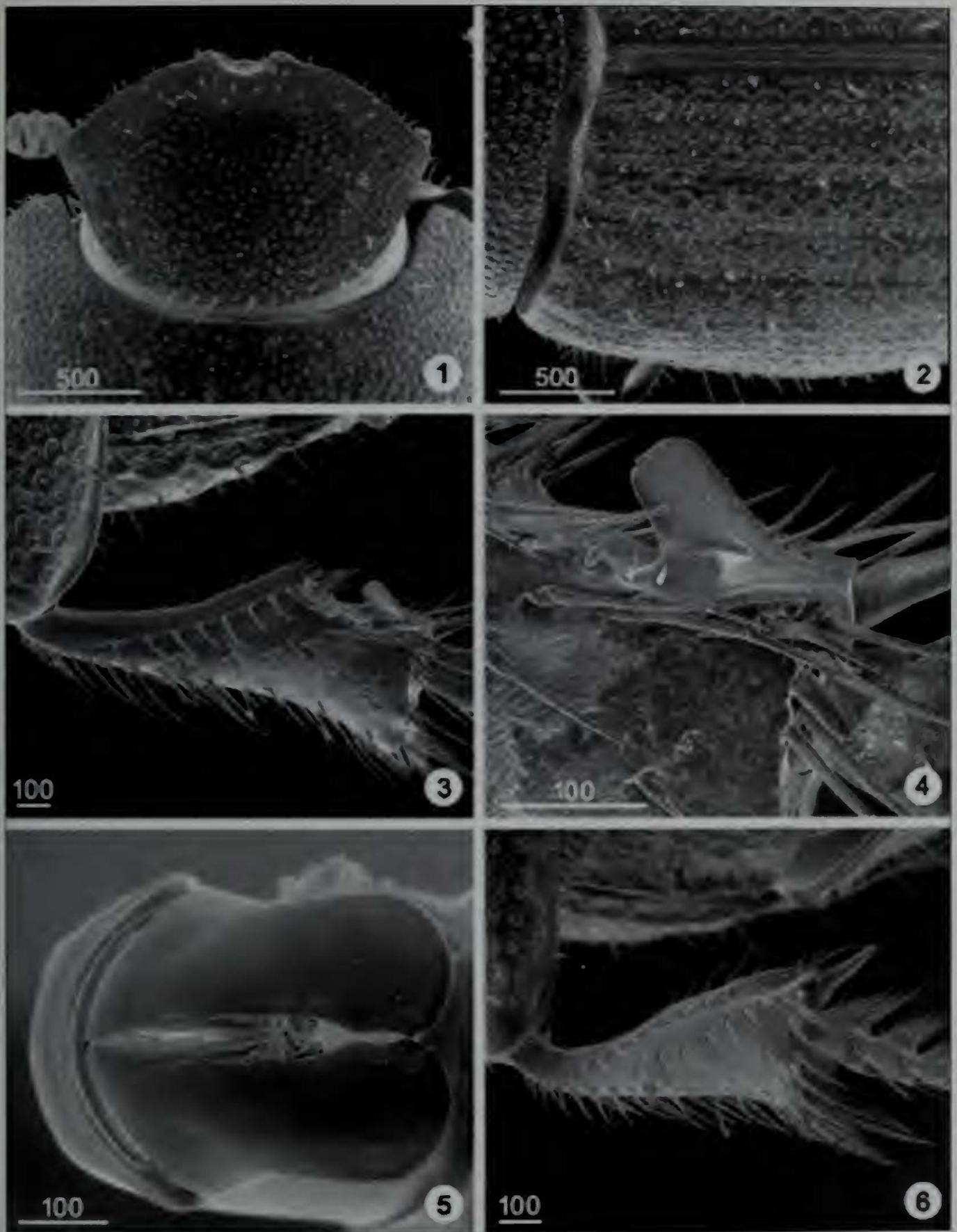
Mesosternum covered by large setose punctures; punctures smaller and more rounded anteriorly. Meso-metasternal suture angulate medially; apex of angulation directed anteriorly. Metasternum densely, closely punctured; punctures larger anteriorly and laterally though smaller than those of mesosternum; disc of metasternum shallowly concave, hind margin with bifid tubercle along midline, close to posterior coxae.

All femora densely, closely punctured on ventral face. Fore tibia externally with three small teeth in apical half; inner apical angle projecting inwardly as tooth. Fifth tarsomere laterally compressed and apically dilated. Middle tibia gradually expanded to apex, obtusely truncate apically, with inner apical angle projecting inward as small tooth. Hind tibia strongly expanded apically; outer margin straight, inner margin strongly curved for about two-thirds length to obtuse angle, thence abruptly incurved to apex near insertion of metatarsus; inner apex bearing broad laminar process directed basally (Figures 3-4). First tarsomere longer than second, fifth tarsomere about twice as long as fourth. Tibial spurs simple, conical. Tarsal claws very small, strongly curved.

Abdominal sternites and pygidium densely, closely punctured; base of pygidium with shallow transverse sulcus. Propygidial apex with U-shaped emargination at midline. Parameres of genitalia as in Figure 5.

Females.

Similar to males except as follows. Lateral margin of pronotum almost rounded, not sinuate. Metasternal disc flat and without apical bifid tubercle. Fore tibia without internal apical tooth, with external teeth more strongly developed. Fifth tarsomere of fore tibia not expanded apically. Middle tibia lacking internal apical tooth. Hind tibia lacking both internal apical concavity and laminar process (Figure 6). Abdominal sternites longer along midline, pygidium shorter.



FIGURES 1-6. *Pedaridium medinae* n. sp.: 1. Head, dorsal view; 2. Elytron, dorsal view; 3. Hind tibia of male; 4. Hind tibia of male, detail; 5. Parameres of male genitalia, dorsal view; 6. Hind tibia of female. Scale bars in microns.

Type Material

HOLOTYPE male: COLOMBIA: Risaralda: PNR Ucumari, La Pastora, 2400 m Aliso, T. Exc. H., C. Medina, Mayo 7 1995 (IAHC).

ALLOTYPE female: COLOMBIA: Risaralda: PNR Ucumari 1800m, La Suiza, Bosque, T. Exc. H., C. Medina, Marzo 29 1995 (IAHC).

PARATYPES: 20 specimens; 8 males, 9 females, and 3 not recorded. COLOMBIA: Cundinamarca: Tecadama (*sic*) [= Tequedama?] Falls, 30 km SW Bogotá, 27-II-6-III-1972, S&J Peck, forest dung trap (1 specimen, CMNC); Quindío, 5 km E Salento, 1800 m, 9-XII-1995, BD Gill, dung trap (8 specimens, BDGC; 1 specimen, CMNC; 1 specimen, CNCI; 4 specimens, FZVC); R Herencia Verde, 1800 m, 12-XII-1995, Medina & Gill, excr hum. (1 specimen, CAMC); Risaralda: Pereira, SFF Otún Quimbaya, Est. La Suiza, 1850 m, 25-IV-04-V-1997, A Vitolo (1 specimen, FZVC); Pque. Nat. Reg. Ucumari, La Suiza 1800 m, CA Medina (1 specimen, CMNC); Pque. Nat. Reg. Ucumari, La Suiza 1800 m, 29-III-1995, F Escobar, excr hum. (2 specimens, CAMC).

Etymology: This new species is named in honour of Claudia A. Medina, a specialist in the systematics of Canthonine scarab beetles, who collected part of the type series.

Discussion

The type series exhibits little variation with the exception of the larger setae which appear to be subject to abrasion, being sparse on several of the older, more abraded specimens.

This species is unique among known *Pedaridium*, being distinguished by the absence of eyes on the dorsal surface of the head and in the unusual secondary sexual characters of the male, most



FIGURE 7. Distribution of *Pedaridium medinae* n. sp in Colombia.

notably the metasternal tubercle and distinctive hind tibia. Males of *Pedaridium bordoni* Martínez (1992) from Venezuela also share a toothed inner apical angle of the fore tibia, and a broad laminar process at the inner apex of the hind tibia. In *P. bordoni* however, the middle tibia is not apically toothed and the hind tibia lacks the concave excavation on the inner apical margin.

Pedaridium medinae can be readily recognized by the dorsal absence of eyes and the rows of large ocellate punctures on the elytra. It appears to be confined to Andean forests in the Provinces of Risaralda, Quindio and Cundinamarca in Colombia (Figure 7) and is now the second species of the genus to be reported for the country (see Medina *et al.* 2002).

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